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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/593,632

09/21/2006

Yasuo Mukai

043888-0514

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7590

10/03/2008

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EXAMINER

LAIOS, MARIA J

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

10/03/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/593,632	Applicant(s) MUKAI ET AL.	
	Examiner MARIA J. LAIOS	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20060921, 20080429, 20080604</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miyamoto et al. (WO 2003/103080, US 2005/0244712 A1 is used as an English equivalent) in view of Oya et al. (JP 2002-198060).

An alkaline battery comprising: an electrode assembly comprising a positive electrode (2) including manganese dioxide (Paragraph 28) and nickel oxyhydroxide (Paragraph 21) as positive electrode active materials, a negative electrode (4) including zinc (Paragraph 17) as a negative electrode active material, and a separator (3) interposed between said positive electrode and said negative electrode (Paragraph 17); a negative electrode current collector inserted in said negative electrode (5); an electrolyte comprising an alkaline aqueous solution contained in said electrode assembly (Paragraph 42); a battery can (1) for accommodating said electrode assembly, said negative electrode current collector, and said electrolyte; and a sealing member (8) for sealing an opening of said battery can (Paragraph 17), wherein the ratio of the electrical capacity of said negative electrode to the electrical capacity of said positive electrode is 1.00 to 1.2 (Paragraph 12). Miyamoto et al fails to

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disclose the volume obtained by subtracting the volume of the electrode assembly containing the electrolyte and the volume of the negative electrode current collector from the internal volume of the battery that is formed by the battery can and the sealing member constitutes 5 to 15 % of said internal volume. Oya discloses an alkaline battery and teaches increasing the internal volume of 5 to 10 percent the length of the positive electrode (Abstract) in order to allow a space between a sealing unit for the swelling of the positive electrode when the nickel oxyhydroxide is over discharged (Abstract).

It would have been obvious to one of ordinary skill to include the extra space of Oya into the battery of Miyamoto et al because this would allow for the expansion of the positive electrode when it is over discharged.

Furthermore, in the case where the claimed ranges “overlap or lie inside ranges disclosed by the prior art” a *prima facie* case of obviousness exists. In re Wertheim, 541 F.2d 257, 191USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990).

3. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyamoto et al. (WO 2003/103080, US 2005/0244712 A1 is used as an English equivalent) in view of Oya et al. (JP 2002-198060) as applied to claim 1 above, and further in view of Ueki et al. (US 7,344,803 B2).

Miyamoto et al. modified by Oya et al. discloses an alkaline battery with a 5 to 10 percent increase in space for the swelling of the positive electrode as is discussed above and incorporated herein. However, Miyamoto et al. modified by Oya et al. fail to

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disclose the weight ratio of manganese dioxide and nickel oxyhydroxide as 20-90:80-10 or 40-60:60-40. Ueki et al. also discloses an alkaline battery with a cathode containing the ratio of nickel oxyhydroxide to manganese dioxide as 75:25, 50:50 and 25:75 (col. 9 lines 30-35). Ueki et al. teaches that the increase of nickel oxyhydroxide to manganese dioxide increase the capacity of the cell (col. 9 lines 42-47).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have the ratio manganese dioxide to nickel oxyhydroxide in these ranges in order to obtain the desired capacity of the cell.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARIA J. LAIOS whose telephone number is (571)272-9808. The examiner can normally be reached on Monday - Thursday 10 am -7 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Susy Tsang-Foster can be reached on 571-272-1293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. J. L./
Examiner, Art Unit 1795

/SUSY N TSANG-FOSTER/
Supervisory Patent Examiner, Art Unit 1795